

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A homogeneous assay for the determination of deoxynivalenol (DON) in grains, said homogeneous assay comprising the steps of:

 ~~extracting DON~~ providing an extract from a grain sample ~~to provide an extract;~~

 providing a tracer comprising DON conjugated to a fluorophore;

 combining said extract with a said tracer and an antibody to provide a mixture, ~~said tracer comprising DON conjugated to a fluorophore;~~ said tracer being able to bind to said antibody to produce a detectable change in fluorescence polarization;

 measuring the fluorescence polarization of said mixture to obtain a measured fluorescence polarization; and

 comparing said measured fluorescence polarization with a characterized fluorescence polarization value, said characterized fluorescence polarization value corresponding to a known DON concentration.
2. (original) The assay of claim 1, wherein said fluorophore is 6-aminofluorescein.
3. (original) The assay of claim 1, further comprising the steps of:

 providing a plurality of DON standard solutions, each of said DON standard solutions having a different known concentration of DON;

 adding said tracer and said antibody to each one of said plurality of DON standard solutions, so as to provide a plurality of standard mixtures; and

measuring the fluorescence polarization of each one of said plurality of said standard mixtures to provide a plurality of standard fluorescence polarization values corresponding to known DON concentrations.

4. (original) The assay of claim 3, wherein said characterized fluorescence polarization value is one of said standard fluorescence polarization values.

5. (currently amended) A homogeneous assay for the determination of trichothecenes in grains, said homogeneous assay comprising the steps of:

~~extracting trichothecene~~ providing an extract from a grain sample ~~to provide an extract;~~
providing a tracer comprising a predetermined trichothecene conjugated to a fluorophore;
combining said extract with a said tracer and an antibody to provide a mixture, ~~said tracer~~
~~comprising a predetermined trichothecene conjugated to a fluorophore~~, said tracer being able to
bind to said antibody to produce a detectable change in fluorescence polarization;
measuring the fluorescence polarization of said mixture to obtain a measured
fluorescence polarization; and
comparing said measured fluorescence polarization with a characterized fluorescence
polarization value, said characterized fluorescence polarization value corresponding to a known
trichothecene concentration.

6. (original) The assay of claim 5, wherein said predetermined trichothecene is deoxynivalenol (DON).

7. (original) The assay of claim 6, wherein said fluorophore is 6-aminofluorescein.

8. (original) The assay of claim 5, further comprising the steps of:

providing a plurality of trichothecene standard solutions, each of said standard trichothecene solutions having a different known concentration of trichothecene;

adding said tracer and said antibody to each one of said plurality of trichothecene standard solutions, so as to provide a plurality of standard mixtures; and

measuring the fluorescence polarization of each one of said plurality of said standard mixtures to provide a plurality of standard fluorescence polarization values corresponding to known trichothecene concentrations.

9. (original) The assay of claim 8, wherein said characterized fluorescence polarization value is one of said standard fluorescence polarization values.

10. (original) An assay kit for the determination of deoxynivalenol (DON) content in grains, said assay kit comprising:

an antibody and a tracer, each in an amount suitable for at least one assay, and suitable packaging, said tracer comprising DON conjugated to a fluorophore, said tracer being able to bind to said antibody to produce a detectable change in fluorescence polarization.

11. (original) The assay kit of claim 10, wherein said fluorophore is 6-aminofluorescein.